Device description, Operation

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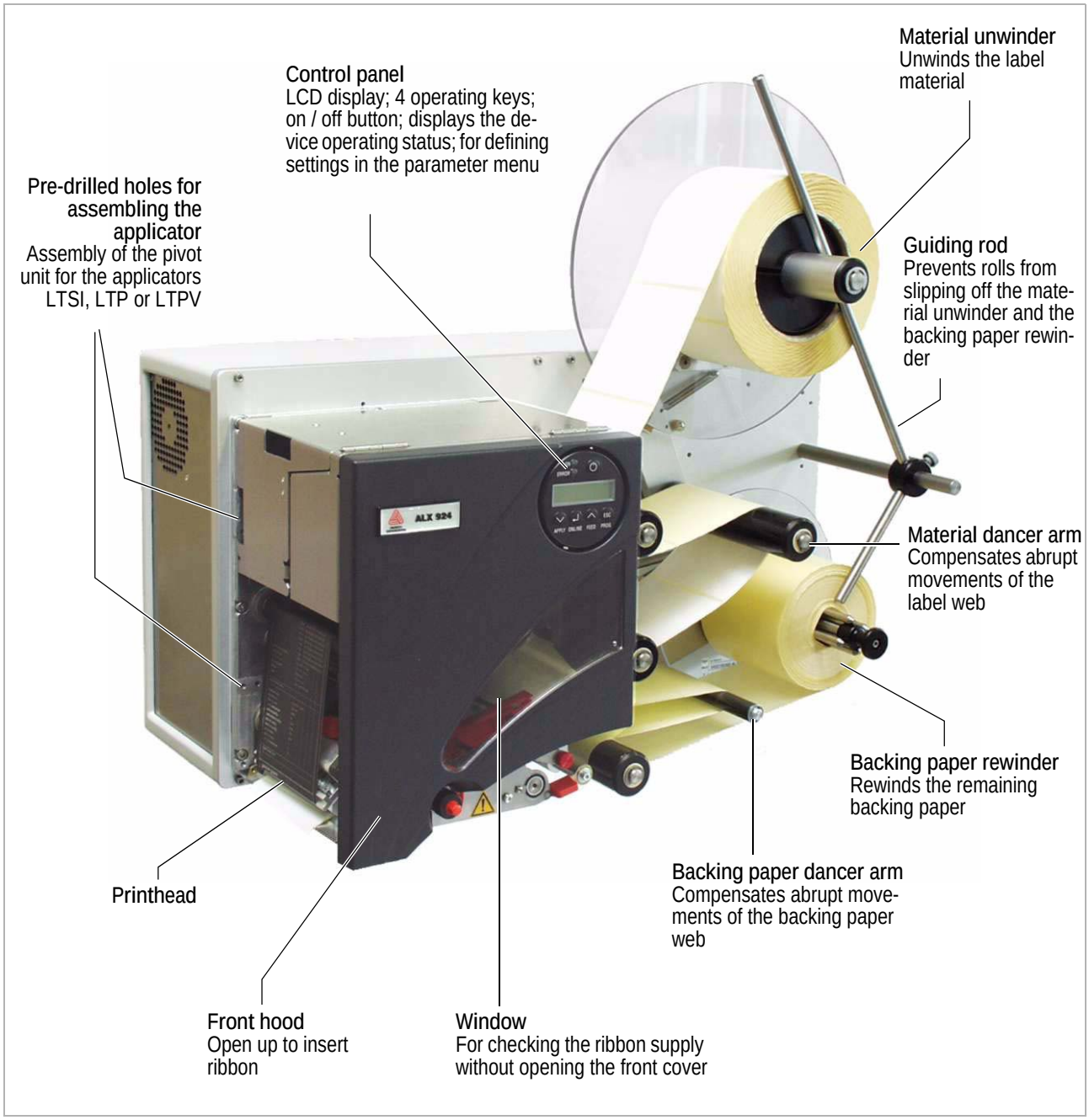
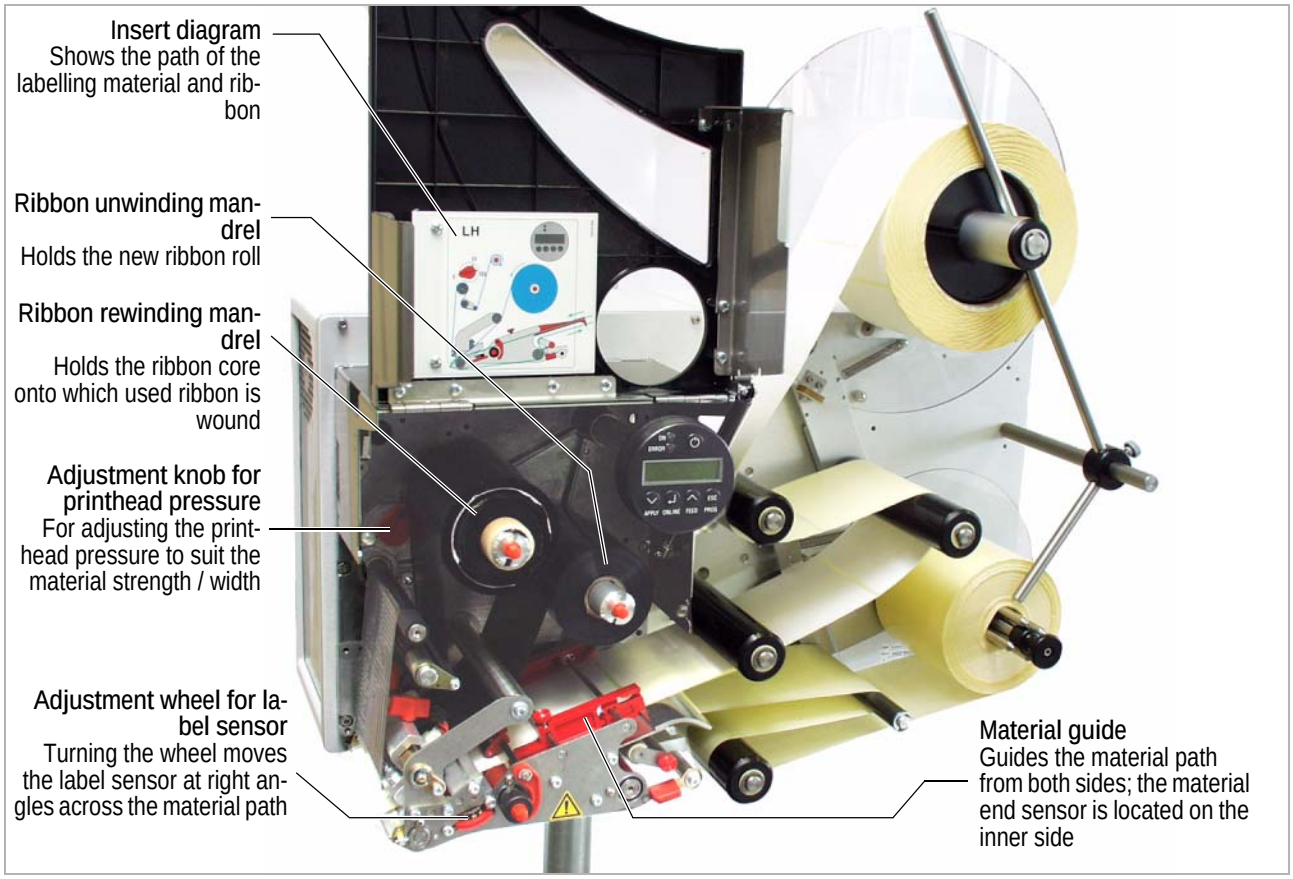
Device description

Operating Parts


Material unwinder
Unwinds the label material
Control panel
LCD display; 4 operating keys; on / off button; displays the device operating status; for defining settings in the parameter menu
Pre-drilled holes for assembling the applicator
Assembly of the pivot unit for the applicators LTSI, LTP or LTPV
Guiding rod
Prevents rolls from slipping off the material unwinder and the backing paper rewinder
Material dancer arm
Compensates abrupt movements of the label web
Backing paper rewinder
Rewinds the remaining backing paper
Backing paper dancer arm
Compensates abrupt movements of the backing paper web
Printhead
Front hood
Open up to insert ribbon
Window
For checking the ribbon supply without opening the front cover
ALX 924

[1] Exterior of the ALX 92x.


Insert diagram
Shows the path of the labelling material and ribbon
Ribbon unwinding mandrel
Holds the new ribbon roll
Ribbon rewinding mandrel
Holds the ribbon core onto which used ribbon is wound
Adjustment knob for printhead pressure
For adjusting the printhead pressure to suit the material strength / width
Adjustment wheel for label sensor
Turning the wheel moves the label sensor at right angles across the material path
Material guide
Guides the material path from both sides; the material end sensor is located on the inner side
LH

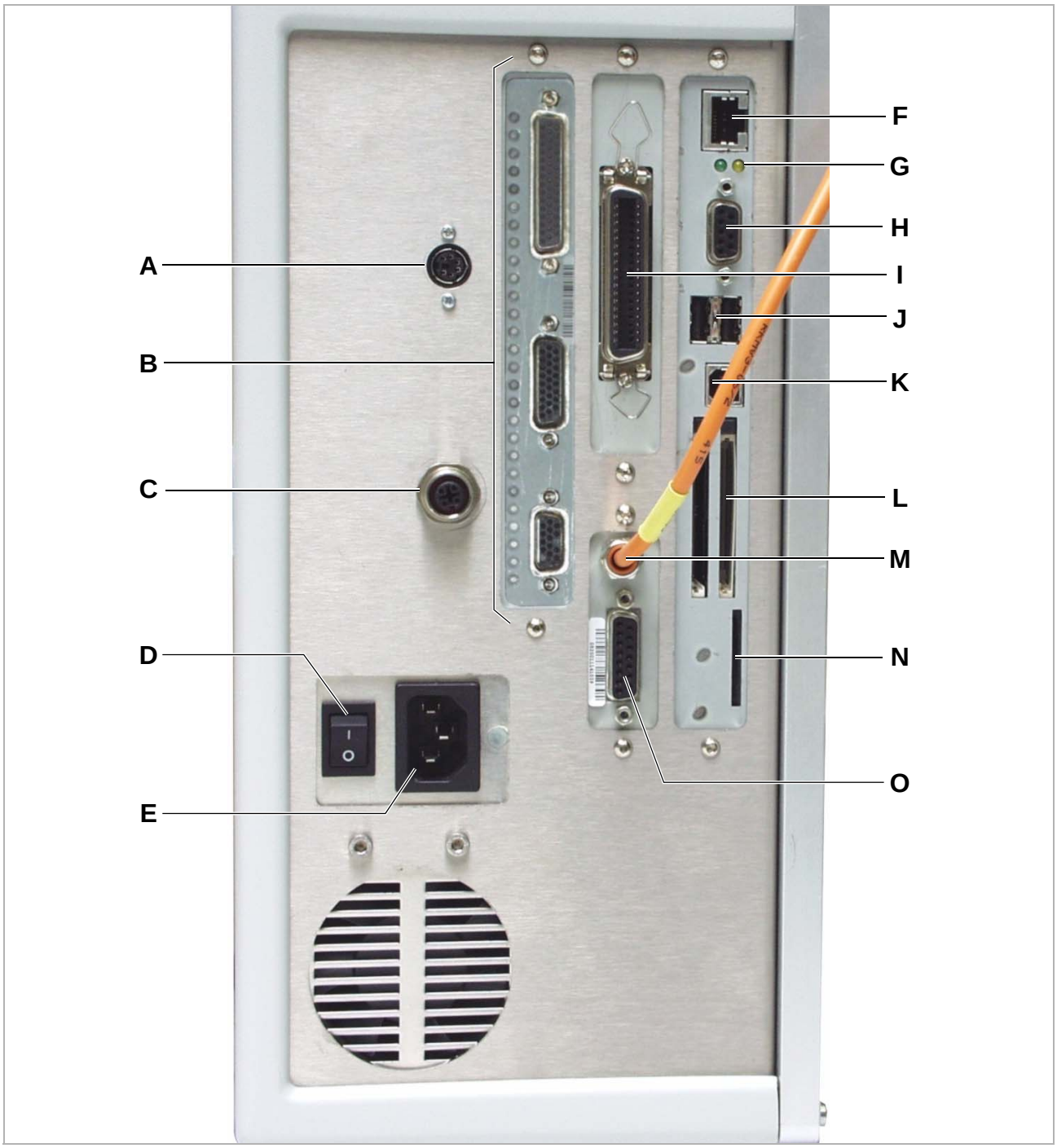
[2] ALX 92x operating parts

Connections

CAUTION! - Additional devices of inadequate quality can damage the device!

➜ Connect the device only to devices that fulfil SELV (safety extra-low voltage) circuit requirements acc. to EN 60950!

➜ Only connect OEM devices.



[3] Connections at the ALX 92x (RH).

A Optional: Mini-DIN connector
To connect an external operation panel

B Optional: Applicator Interface (AI)
For controlling nearly arbitrary applicator types

C Connection Rotary Encoder
- For automatic speed adaption
- Is not yet supported

D Power switch
Turns the device on/off. An additional switch is located on the control panel

E Power supply
Connection to the power supply using the power cable provided

F Ethernet interface
To connect to an „Ethernet 10/100 Base T“ network

G Status-LED/Ethernet

H RS232 interface
For serial transfer of print data

I Centronics interface
For parallel transfer of print data (cable is inclusive)

J 2x USB interface type B (device)
To connect devices (e.g. keyboard, scanner)

K USB interface type A (host)
For transfer of print data

L Card slot
For CompactFlash cards; used for storing fonts, logos, graphics, etc.

M Optional: Cable duct for OD control
To connect a photoelectric barrier, which checks the outer diameter of the label material roll

N Card slot
- For SD/MMC cards
- Is not yet supported

O Signal interface USI
- 4 inputs / 8 outputs
- optional with 5 V or 24 V signal voltage

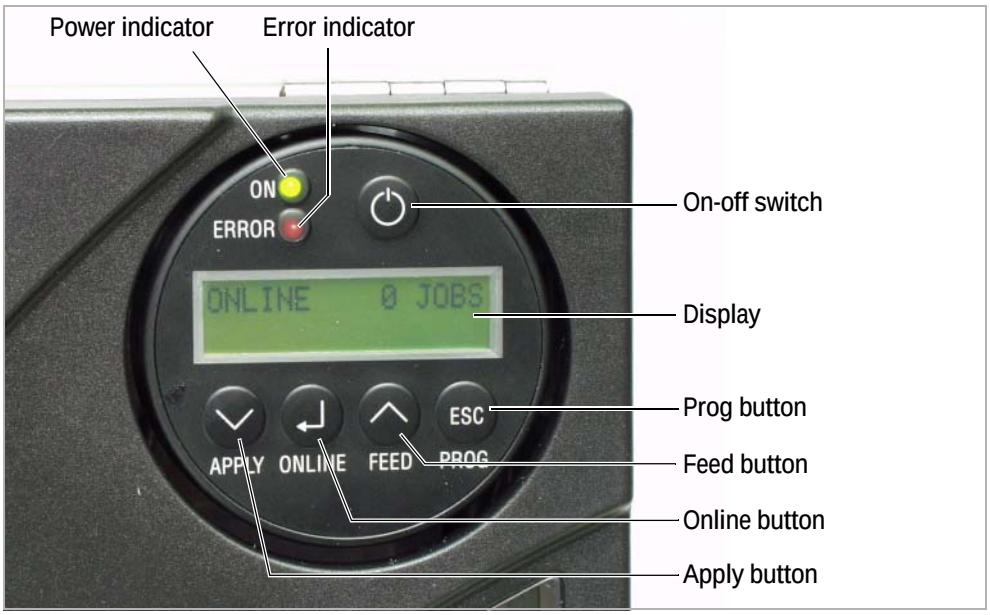
Warning notices

[4] Warning notice on the ALX 92x

The label depicted at [4] warns against the danger of being caught in the moving parts of the device.

➠ Warning labels must be replaced if they are lost or become illegible (part nr. A5346).

Control panel (display)



[5] ALX 92x control panel.

Power indicator Lights up green, when the device is switched on.

Error indicator Lights up red, when the device is in message mode.

Display With 32 digits and two lines, the display shows the operating conditions (modes) for parameters, values, status and errors. You can select the language you want to use for the display. Backlighting ensures good legibility.

Button functions The buttons offer a multitude of operating functions. A logical menu structure is used for operation. The meaning of each button varies according to the operating mode and the menu item. Additionally, special functions have been programmed for certain button combinations.

Depending on the modes and menu levels, the following functions apply for each button:

Online button
- For switching between online and offline mode.
- For confirming entries, menu items and messages.
- For selecting print jobs and for entering values in standalone mode.

Apply button
- Triggers the application process. Requirements:
  – Applicator fitted and activated
  – Device offline.
- Also for accessing deeper levels within the menu structure and selecting menu items.
- For decrementing values.

Feed button
- For feeding in material when the device is offline.
- For starting the printing process once the feed has been stopped (in online mode).
- Also for accessing deeper levels within the menu structure and selecting menu items.
- Increments values.

Prog button
- For accessing the parameter menu when offline.

- For stepping back through the parameter menu and/or exiting it.

❍ For more detailed descriptions of the button functions, please see
– Offline operation auf Seite 12 and
Online operation auf Seite 13
– in “Info-Printouts and Parameters”.

Operating modes

Offline mode

Settings can be made when the device is *offline*. The offline mode is normally active when the device is switched on. Print jobs are received via the selected interface but not processed.

OFFLINE 0 JOBS	No jobs are waiting to be processed.

To configure the device so that it goes directly into online mode when switched on, set the parameter SYSTEM PARAMETER > Turn-on mode to “Online”.

Online mode

In *online* mode, print jobs are received and processed immediately. Possible messages:

ONLINE 0 JOBS	No jobs are waiting to be processed.
ONLINE 0. JOBS	The current data transfer to the device is shown on the display. This is indicated by the dot on the bottom right next to the number of loaded jobs.
ONLINE 13 JOBS Remainder: 25	During printing, the display also shows the number of print jobs read (13) and the remaining number of labels (25) to be printed in the current job.
ONLINE 13 JOBS Remainder: endless	If a print job recognises an *endless* number of labels to be printed, then the remaining number for this job is also shown as endless.

➠ To stop printing, press the online button.

Message mode

The device uses status reports to signal an error or a particular operating status. This message mode indicates that the device is waiting to quit or for fault clearance. When quitting, the device switches from message mode to offline mode (depending on the error and the progress of the last active process).

Status 5001 No gap found	Messages are made up of the status number and a brief descriptive text.

The status message 5001 (shown above) occurs when for example the device is set for punched label material, but continuous form material without punches has been inserted. In this case, the device will continue to feed the material for a few seconds before it generates an error message.

Status Reports: see topic section „Status Reports“.

Standalone mode

In standalone mode, print jobs are not transferred but saved on a plugin card. They are started directly from the devices control panel or via a connected keyboard.

Standalone mode: see topic section „Advanced Applications“.

Basic operating procedures

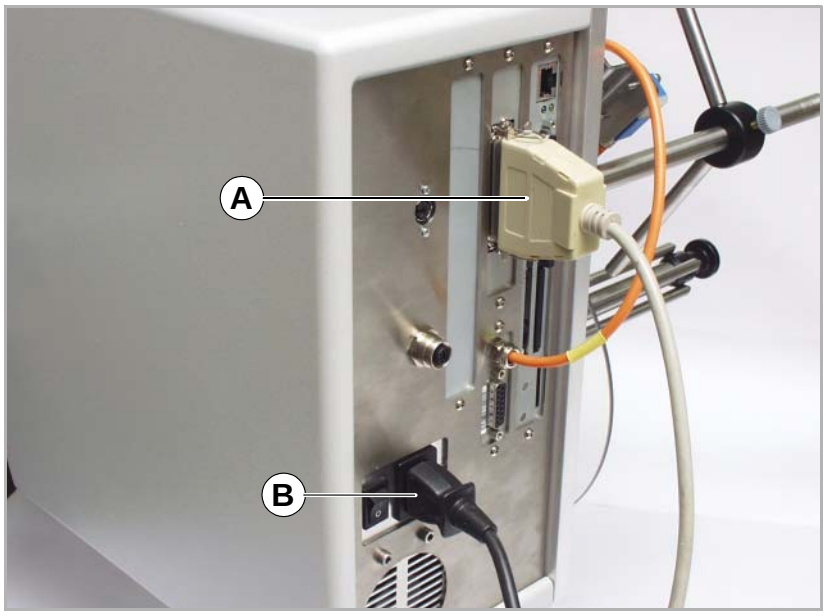
Connecting the device

WARNING!

The device operates using mains voltage! Touching electrically live parts may expose you to hazardous electrical currents and may lead to burns.

- ➜ Make sure that the device is switched off before connecting the power cable.
- ➜ Only operate the device using the system voltage indicated on the nameplate.
- ➜ Only connect the device to a grounded power socket fitted to authorised standards.
- ➜ The power cable should be run to the device so that
  - – nobody will trip on it, and that
  - – the power plug can easily be pulled out if necessary.
- ➜ The power cable should not be more than 3 meters long.

1. Ensure that the power switch is set to “0” (off).
2. Connect the device to the power supply using the cable [6B] provided.
3. Using the data cable supplied, connect the Centronics interface [6A] on the device to the host computer.



[6] Sockets for the Centronics cable (A) and power cable (B) on the ALX 92x.

4. Turn on the device using the power switch (set to position “1”).
5. Hold the on / off switch in the control panel depressed for approx. 2 seconds. The following sequence of messages is displayed:

System start...	The boot loader is starting.
System start... Start user prog	Valid firmware recognised, program is starting.

ALX 924 V 4.10	Device type Version number of the machine firmware
Memory: 64 MB Flashcard: 32 MB	64 MB internal RAM 32 MB optional RAM on the CompactFlash card – only displayed when a CompactFlash card is in use.
OFFLINE 0 JOBS Initialisation	Offline mode
ONLINE 0 JOBS	Online mode. The unit is ready for printing.

➠ When the parameter SYSTEM PARAMETER > Turn-on mode is set to “Offline”, the device switches directly to offline mode when turned on.

➠ CAUTION! - Wait at least 10 seconds between switching the device off and on again, otherwise any modified parameter settings are not saved.

Setting the interface

According to the factory settings, the ALX 92x is set for data transfer via Centronics interface. Print data can also be transferred via the serial interface, USB or Ethernet interface.

➜ The interface type is selected with the following parameter:
INTERF. PARAM. > EASYPLUGINTERPR > Interface

➠ You might have to set other parameters as well, depending on the interface chosen:

- Settings for the Centronics interface: INTERF. PARA. > CENTRONICS
- Settings for the serial interface (COM1): INTERF. PARA. > COM1
- Settings for the Ethernet interface: INTERF. PARA. > ETHERNET PARAM.

🗋 Setting parameters: see topic section „Info-Printouts and Parameters“, chapter “Using the Parameter Menu”.

🗋 Data cables: Ordering nubers can be found in the Service Manual, topic section „Spare Parts“, chapter „Accessories“.

🗋 Ethernet interface: Information about using it can be found in topic section „Advanced Applications“.

Offline operation

- Switching from offline mode to online mode:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	ONLINE x JOBS

- Switch to online mode when the print job is stopped:

OFFLINE x JOBS Stopped xx	→ APPLY ONLINE FEED ESC PROG →	ONLINE x JOBS Stopped xx

- Slow material and ribbon feed:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS feeding…

- Material travels backwards under the printhead:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS feeding…

- Reset:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS

- Access the parameter menu:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	PRINT INFO

- Feed material until the next punch is reached or as long as the button is held down:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS feeding…

- Printhead dot test:

OFFLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS Head dot test

- Standalone operation: Selecting a print job stored on a CF card (e.g., *Testdat.FOR*):

ONLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	Select File Testdat.FOR

Online operation

- Switching to offline mode:

ONLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS

- Setting the print contrast: Press the Feed button to increase and the Cut button to decrease the print contrast.

ONLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	Print contrast xxx%

- Interrupting the print job: The device will finish printing the current label.

ONLINE X JOBS Restcount XXX	→ APPLY ONLINE FEED ESC PROG →	ONLINE X JOBS Stopped XXX[a]

a. *The message "Stopped xxx" alternates with "Press Feed".*

- Switching to offline mode while the print job is stopped:

ONLINE X JOBS Stopped XXX	→ APPLY ONLINE FEED ESC PROG →	OFFLINE x JOBS

- Continuing the print job:

ONLINE X JOBS Stopped XXX	→ APPLY ONLINE FEED ESC PROG →	ONLINE X JOBS Restcount XXX

- Standalone operation: Selecting a print job stored on a CF card (e.g., *Testdat.FOR*):

ONLINE x JOBS	→ APPLY ONLINE FEED ESC PROG →	Select File Testdat.FOR

Creating a print job

Essentially, there are two ways of creating a print job: Either by using the ALX 92x driver for Windows or by creating a text file with print commands.

Windows printer driver

ALX 92x printer drivers are available for different versions of Windows. You can print from nearly every Windows application using the printer drivers. However, functionality is strongly dependent on the choice of software. Special label layout programs are best suited, for example NiceLabel (a demo version is included with the ALX 92x).

➠ The driver's help function explains how to use the printer driver. The help function of your Windows operating system will tell you how to install the driver.

Printer drivers for the different versions of Windows can be found on the Internet at (http://www.machines.averydennison.com/printersystems_gb.nsf/wview/L4L3?OpenDocument)

Command file

You can write a sequence of commands in a text file and send it to the device. To do this, you can use any text editor and the MS-DOS Copy command. Easy Plug provides a special command language to program print jobs. However, writing a print job in text file format does require some programming knowledge. Furthermore, you will not be able to preview the resulting printout

on the screen. Instead, you have to run a test print to see a copy of the finished result.

Easy Plug Manual: here you can find a practice example of a print job together with instructions in the section “Program Example” in topic section “General, Definitions Commands Overview”.

Transferring a print job

The device can only carry out a print job once this job has been transferred into the device’s RAM. This can be accomplished in two ways: via a direct transfer from your computer via a *data cable* or by saving it to a *Compact-Flash (CF) card*.

Data cable

The print job can be transferred

– via the serial interface,
– via the parallel interface, or
– via the Ethernet connection.

To transfer data via the serial or parallel interface, connect the corresponding ports on the host computer and the device. Use the DOS window to send the print job file to the interface:

- Serial interface (COM1): *copy testjob.txt com1*
- Parallel interface (LPT1): *copy testjob.txt lpt1*
- USB interface / Ethernet interface:
  copy testjob.txt \\computername\sharename.
  – *Computer name* = Name of the computer. You can find this name in Windows XP under START > SETTINGS > CONTROL PANEL > SYSTEM > COMPUTER NAME (e.g. DM-ECH-0990).
  – For *sharename*, enter the name found under START > SETTINGS > PRINTERS AND FAXES after right-clicking PROPERTIES > SHARE (in Windows XP). The share name represents a device connected with a specific port – the USP port for transfer via USB, the TCP/IP port for transfer via Ethernet.

A few hints on using the USB or Ethernet interfaces:

➠ The method described here does not work in Windows 98, Windows ME or Windows NT 4.0.
➠ The share name has to comply with the MS-DOS formatting conventions (no more than 8 characters, no symbols or spaces).

❍ You can find further information on transferring data per Ethernet at topic section Advanced Applications

➠ Before sending a print job from a text program, you need to ensure that the correct device driver has been installed.
➠ Special label layout programs, such as NiceLabel, make this much easier. These programs also require a driver to be installed.

Plug-in card

You require the following to load a print job from a CF card:

- CF card (copy the print job to the directory \FORMATS)
- CF card reader (to connect to your computer)

Transferring print jobs via CF card: A detailed description can be found in topic section „Advanced Applications“, chapter “Standalone Mode”.

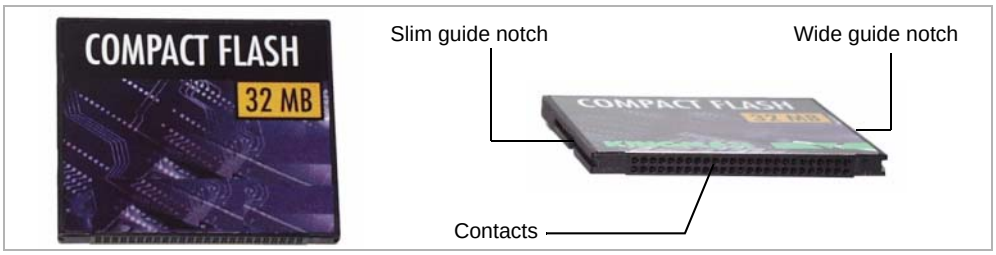
Applying CompactFlash cards

CF = CompactFlash

CAUTION! - Observe the following guidelines to avoid damaging the device or the CF card.

➜ Only use CF -cards approved by the manufacturer.
➜ Always wait at least 5 seconds after switching off the device before removing or inserting the CF card.
➜ When inserting or removing the CF card, never use force.

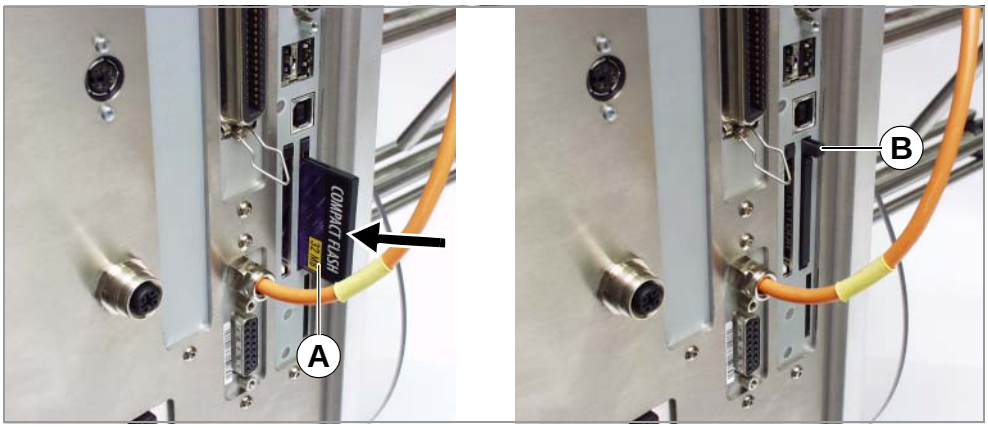
➠ The device firmware cannot utilise more than 128 MB of card storage capacity.



[7] Example: A 32 MB CF card (T1).

Suitable CF cards: see Plugin-card manual, topic section „Card types“, chapter „CompactFlash card“.

Applying CF cards: see Plugin-card manual, topic section „Application“, chapter „CompactFlash card“.



[8] Inserting the CF card (A) causes the release button (B) to come out. If the card has been inserted correctly, it will sit flush with the printer’s back wall (right)

Inserting a CF card

1. Switch off the device. Wait for 5 seconds.
2. Insert the CF card [8A] into the card slot, contact side first. The card's label is on the right side.

➠ Push the CF card into the slot until the release button [8B] comes out.
➠ The differently sized guide notches [7] of the CF card prevent the card from being inserted wrongly. For the card to be inserted correctly, the wider guide notch needs to be on top.

Removing a CF card

➜ Press the release button [8B] to remove the CF card.

Setting the realtime clock

➠ The realtime clock is an optional accessory.
The ALX 92x realtime clock can be used, for example, to calculate and print the expiry date of a perishable product.

This is how you set the realtime clock:

1. Navigate to the SYSTEM PARAMETER > Realtime clock.

Realtime clock dd.mm.yyyy hh:mm	dd = day, mm = month, yyyy = year, hh = hour, mm = minute

2. To enter the date and time, Use the Apply button to shift the cursor, the Feed button to change the parameter, and the Online button to save it.

🗋 Setting parameters: see topic section „Info-Printouts and Parameters“, chapter “Using the Parameter Menu”.

Outputting the realtime clock value using Easy Plug

Use the following Easy Plug commands to output the current realtime clock value:

- #YC realtime as text
- #YS realtime as barcode
- #DM download month names

🗋 Easy Plug manual

The first device test

Settings for the material type

The parameter settings described below provide the device with the necessary information about the label material used. When printing from a layout program, these settings are usually provided automatically by the device driver. For your first test prints, you need to configure them manually.

Material type

- The label material is “endless”, which means that it contains *no* punches/ perforations, breaks or reflex marks that could be recognised by the punch sensor:

➜ Set the PRINT PARAMETER > Material Type to “endless”.

- The label material contains punches, breaks or reflex marks that can be recognised by the punch sensor (referred to as “punched” material):

➜ Set the PRINT PARAMETER > Material Type to “Punched”.

Material length

➜ Set the PRINT PARAMETER > Material Length to the length of the material (in mm).

Material width

➜ Set the PRINT PARAMETER > Material Width to the width of the material (in mm).

Only for punched/perforated material:

Type of punch

- Label material with breaks or punches:

➜ Set the SYSTEM PARAMETER > Light sens. type to “Punched”.

- Label material with reflex marks:

➜ Set the SYSTEM PARAMETER > Light sens. type to “Reflex”.

Setting parameters: see topic section „Info-Printouts and Parameters“, chapter “Using the Parameter Menu”.

Printing the status report

A status report printout is a perfectly adequate device test. The width of the status printout can be set to 100 mm or 50 mm. This should match the width of the label material used. The length of the printout is 200 mm.

100 mm width

➜ Navigate to PRINT INFO > Printer status.
The printout that is triggered spans a label length of 2x 200 mm, listing all of the device’s current parameter settings.

50 mm width

➜ Set the SYSTEM PARAMETER > Print Info Mode to “Compact right”.

➜ Navigate to PRINT INFO > Printer Status.
The printout that is triggered contains the same information as the wider printout, compressed to a width of 50 mm.

Density

If the printout is not as black as you would like it to be, increase the print density as follows:

1. Press the Esc button while in online mode. Display:

   Print contrast
   60%

2. By pressing the Apply / Feed buttons, you can increase or decrease the heat energy of the printhead (in %).

➠ The heat energy should be kept as low as possible while retaining an acceptable printing result. A high level of heat energy reduces the lifespan of the printhead.